

U.S. Patent No. 6,873,236



RD-29,526

COFE

09/682852

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patentee: MANOJ R. SHAH, ET AL

Patent No.: 6,873,236

Issued: MARCH 29, 2005

Title: FAULT CURRENT LIMITER

Assistant Commissioner of Patents and Trademarks

Alexandria, VA

Attention: Certificate of Correction Branch

Certificate

JUN 13 2005

of Correction

SIR:

Enclosed are the following documents for the above-identified patent:

1. A request for a Certificate of Correction;
2. A PTO Form 1050-Certificate of Correction; and
3. A copy of Patentee's July 16, 2004 amendment.

Respectfully submitted,

**GENERAL ELECTRIC COMPANY**

*Amanti*

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ANN M. AGOSTI, PATENT COUNSEL

Registration No. 37,372

Telephone: (518) 387-7713 or  
(518) 387-7122

Niskayuna, New York

Customer No. 006147

Dated: 6 June 05



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patentee: MANOJ R. SHAH, et al.  
Patent No.: 6,873,236  
Issued: MARCH 29, 2005  
Title: FAULT CURRENT LIMITER

**REQUEST FOR CERTIFICATE OF CORRECTION**

Commissioner for Patents and Trademarks  
Alexandria, VA  
Attention: Certificate of Correction Branch

SIR:

In accordance with 35 U.S.C. § 254 and 37 C.F.R. § 1.322, Patentee respectfully requests that a certificate of correction be issued for an error in the above-identified patent, incurred through the fault of the U.S. Patent and Trademark Office (hereinafter Office).

On March 29, 2005, US Patent 6,873,236 was issued containing an error in the patent as follows:.

Claim 8, Line 44 contains a typing error

Please --DELETE--copper and a insulation layer on at least of the copper;--  
and --INSERT--copper and a insulation layer on at least one surface of the copper;--  
This was previously Claim 57, which was amended on July 16, 2004 (copy enclosed).

Since the error was made by the Office and not by the Patentee, it is requested that a certificate of correction be issued, and that there be no additional fees charged for this request.

If there are any questions regarding this matter, please call Patentee's attorney, Ann M. Agosti, at telephone number (518)-387-7713.

Respectfully submitted,

**GENERAL ELECTRIC COMPANY**

Ann M. Agosti  
ANN M. AGOSTI, PATENT COUNSEL  
Registration No. 37,372  
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(518) 387-7122

Niskayuna, New York  
Customer No. 006147

Dated: 6 June 05

UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 6,873,236 *B2*

DATED : March 29, 2005

INVENTOR(S) : MANOJ R. SHAH, ET AL

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE CLAIMS:

CLAIM 8, LINE 44,

PLEASE DELETE--copper and insulation layer on at least of the copper--  
and

INSERT--copper and insulation layer on at least one surface of the copper--

MAILING ADDRESS OF SENDER:

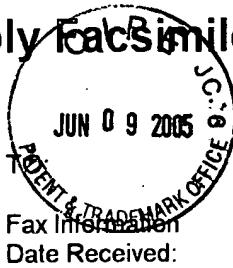
Patent No. 6,873,236

No. of add'l copies  
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**GENERAL ELECTRIC COMPANY  
CRD PATENT DOCKET RM 4A59  
P.O. BOX 8, BLDG. K-1 - ROSS  
SCHENECTADY, NEW YORK 12301**



## Auto-Reply Facsimile Transmission



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JUL 16 2004 13:20 FR GE CORPORATE R-D		5183877751 TO 817038729306	P.01/06.
<p>Appl. No. 09,882,852 Arndt, Dated 16 July 2004 Reply to Office action of May 25 2004</p> <p>I hereby certify that this correspondence is being facsimile transmitted to the Central Facsimile Number (703) 872-9308 of the United States Patent and Trademark Office on 16 July 2004 (DATE). 61 pages total- including 1 page for transmittal sheet Typed or printed name: Ann M. Agresti Signature: </p> <p>Appl. No.: 09/882,852 Applicant: Shah et al. Filed: 24 October 2001 Title: Fault Current Limiter TCA/U.: 2832 Examiner: Mai, Anh T Docket No.: RD29526 Customer No.: 8147</p> <p>Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450</p> <p>AMENDMENT UNDER 37 CFR 1.118</p> <p>In response to the Office action of 25 May 2004, please amend the above-identified application as follows.</p> <p>Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.</p> <p>Remarks/Arguments begin on page 5 of this paper.</p>			

PAGE 1/6 \* RCVD AT 7/16/2004 1:18:18 PM [Eastern Daylight Time] \* SVR:USPTO-EFXRF-1/2 \* DNIS:817038729306 \* CSID:5183877751 \* DURATION (min:ss):01:32

Appl. No. 09,682,852  
Amdt. Dated 16 July 2004  
Reply to Office action of May 25 2004



I hereby certify that this correspondence is being facsimile transmitted to the Central Facsimile Number (703) 872-9306 of the United States Patent and Trademark Office on 16 July 2004 (Date). (*6 pages total- including 1 page for transmittal sheet*)  
Typed or printed name: Ann M. Agosti.  
Signature: Ann M. Agosti

Appl. No. : 09/682,852  
Applicant : Shah et al.  
Filed : 24 October 2001  
Title : Fault Current Limiter  
TC/A.U. : 2832  
Examiner : Mai, Anh T  
  
Docket No. : RD29526  
Customer No. : 6147

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

#### **AMENDMENT UNDER 37 CFR 1.116**

In response to the Office action of 25 May 2004, please amend the above-identified application as follows.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 5 of this paper.

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-19 (canceled).

20 (original). The FCL of claim 19 A fault current limiter (FCL) comprising:  
an air core flat clock spiral inductor comprising wound electrically conductive material insulated turns;  
a casing containing fluid between the turns of the air core flat clock spiral inductor, wherein the casing  
comprises a tube wrapped around the electrically conductive material;  
two terminations of the FCL.

21-26 (canceled).

27 (currently amended). The FCL of claim 21 A fault current limiter (FCL) comprising:  
an air core flat clock spiral inductor comprising wound electrically conductive material insulated turns;  
two terminations of the FCL,  
wherein the wound sheet of electrically conductive material further comprises an insulation layer on at  
least one surface of the electrically conductive material,  
wherein the insulation layer comprises a shrink wrap.

28 (original). The FCL of claim 27 wherein the shrink wrap comprises a polyolefin or a polytetrafluoroethylene, for example.

29- 37 (canceled).

38 (original). The FCL of claim 37 A fault current limiter (FCL) comprising:  
an air core flat clock spiral inductor comprising wound electrically conductive material and insulated turns;  
two terminations of the FCL,  
a housing surrounding the spiral inductor, the housing comprising walls,  
wherein each one of the walls is in electrical contact with at least one other one of the walls,  
wherein the housing further comprises at least one stack of magnetic laminations between at least one of the walls and the spiral inductor.

39 (canceled).

40 (currently amended). The FCL of claim 39 A fault current limiter (FCL) comprising:  
an air core flat clock spiral inductor comprising wound electrically conductive material and insulated turns;  
two terminations of the FCL,  
further comprising a housing surrounding the spiral inductor, the housing comprising walls,  
wherein the housing further comprises at least one stack of magnetic laminations between at least one of the walls and the spiral inductor.

41-43 (canceled).

44 (previously presented). The FCL of claim 41 A fault current limiter (FCL) comprising:  
an air core flat clock spiral inductor comprising wound electrically conductive material and insulated turns;  
two terminations of the FCL;  
a housing surrounding the spiral inductor, the housing comprising walls, wherein the air core spiral inductor comprises a plurality of air core spiral inductors, with each one of the plurality of air core spiral inductors comprising a wound sheet of electrically conductive material and insulated turns and situated within the housing;  
and  
further comprising at least one magnetic shield between at least two of the plurality of spiral inductors.

45-48 (canceled).

49 (original). The FCL of claim 47 further comprising A fault current limiter (FCL) comprising:  
an air core flat clock spiral inductor comprising wound electrically conductive material and insulated turns;  
two terminations of the FCL;  
at least one auxiliary cooling unit configured for cooling the spiral inductor and comprising a fan, an air conditioner, an auxiliary cooling unit, or a combination thereof;  
at least one heat pipe, wherein the auxiliary cooling unit comprises a heat pipe controller.

50-56 (canceled).

57 (original). The FCL of claim 52 A fault current limiter (FCL) comprising:  
three air core flat clock spiral inductors, each inductor comprising a cylindrically wound sheet comprising copper and a insulation layer on at least one surface of the copper;  
a housing surrounding the three air core spiral inductors, the housing comprising wall; and  
at least one cooling unit configured for providing cooling air to the three spiral inductors of the FCL,  
wherein the housing further comprises at least one stack of magnetic laminations between at least one of the walls and the air core spiral inductors.

58-59 (canceled).

60 (original). The FCL of claim 52-A fault current limiter (FCL) comprising:  
three air core flat clock spiral inductors, each inductor comprising a cylindrically wound sheet comprising  
copper and a insulation layer on at least one surface of the copper;  
a housing surrounding the three air core spiral inductors, the housing comprising wall; and  
at least one cooling unit configured for providing cooling air to the three spiral inductors of the FCL; and  
further comprising at least one magnetic shield between at least two of the three of spiral inductors.

61-62 (canceled).

Appl. No. 09,682,852  
Am dt. Dated 16 July 2004  
Reply to Office action of May 25 2004

**REMARKS/ARGUMENTS**

This case has been carefully reviewed in light of Office Action dated May 25, 2004. Claims 1-3, 14-19, 21-26, 29-37, 39, 41, 42, 45-47, 50-56 and 61 were rejected. Claims 20, 27, 28, 38, 40, 44, 49, 57 and 60 were objected to as being based upon a rejected base claim, but the Examiner indicated that the claims would be allowable if re-written in independent form including all of the limitations of the base claims.

Claims 1-19, 21-26, 27-39, 41-43, 45-48, 50-56, 58-59, and 21-62 have been canceled.

Claims 20, 27, 38, 40, 44, 49, 57, and 60 were rewritten in independent form. Claim 28 depends from amended claim 27.

Accordingly, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

By Ann M. Agosti  
Ann M. Agosti  
Reg. No. 37,372  
General Electric Company  
Building K1, Room 3A66  
Schenectady, New York 12301  
Telephone: (518) 387-7713

## AMENDMENT TRANSMITTAL LETTER

ATTORNEY'S DOCKET NO.

RD-29,256-1

SERIAL NO.  
09/682,852

JUN 09 2005

FILING DATE  
6/10/24/01EXAMINER  
A. MAIGROUP ART UNIT  
2832IN RE APPLICATION NO. 09/682,852  
BY NOJ R. SHAH, ET AL

FOR FAULT CURRENT LIMITER

## TO THE ASSISTANT COMMISSIONER FOR PATENTS :

Transmitted herewith is an amendment in the above-identified application. The fee has been calculated as shown below.

## CLAIMS AS AMENDED

(1)	(2) CLAIMS REMAINING AFTER AMENDMENT	(3)	(4) HIGHEST NUMBER PREVIOUSLY PAID FOR	(5) NO. OF EXTRA CLAIMS PRESENT	(6) RATE	(7) ADDITIONAL FEE
TOTAL CLAIMS	* 9	MINUS	** 62 =	0	X \$18.00	\$0.00
INDEP. CLAIMS	* 8	MINUS	*** 3 =	5	X \$86.00	\$430.00
ADDITIONAL FEE FOR USE OF MULTIPLE DEPENDENT CLAIM(S), IF NOT PAID PREVIOUSLY (once per application)					X \$290.00	
					TOTAL ADDITIONAL FEE FOR THIS AMENDMENT	\$430.00

\* If the entry in column 2 is less than the entry in column 4, write "0" in column 5.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, write "3" in this space.

 Please charge \$430.00 to my Deposit Account No. 07-0868. The Assistant Commissioner is hereby authorized to charge all required fees under 37 C.F.R. 1.16 or 1.17 or credit any overpayment to Deposit Account No. 07-0868.

Three copies of this sheet are enclosed.

6/16/04

date

Telephone No. (518) 387-7713  
or (518) 387-7122Ann M. AgostiAttorney or agent of record ANN M. AGOSTI  
Reg. No. 37,372